UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,776	05/18/2006	Osamu Mizuno	2006_0764A	5486

52349 7590 04/29/2008

WENDEROTH, LIND & PONACK L.L.P.
2033 K. STREET, NW
SUITE 800
WASHINGTON, DC 20006

EXAMINER	
KAYRISH, MATTHEW	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
04/29/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,776	MIZUNO ET AL.	
	Examiner	Art Unit	
	MATTHEW G. KAYRISH	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-15 and 17-24* is/are rejected.

7)☒ Claim(s) *5,6 and 16* is/are objected to.

8)☒ Claim(s) *14,15 and 21-24* are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

3. The disclosure is objected to because of the following informalities:

Page 15, line 7 refers to the objective lens as item 1, however this is inconsistent with the entire specification, which refers to the objective lens as item 32.

Page 21, line 7 states "a working distance WD." The examiner believes the reference character WD should be in parenthesis.

Page 27, line 7 states “a distance d.” The examiner believes the reference character “d” should be in parenthesis.

Appropriate correction is required.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference signs mentioned in the description:

Page 21 discusses much detail referring to figures 6A-6C, however the amplitude [A] or the working distance [WD] are not clearly labeled in figures 6A-6C.

Pages 26 and 27 make continuous reference to "a state holding space" which is not clearly labeled in figures 6A-6C. Furthermore, the examiner believes the acronym "SHD" would be an appropriate label for the figures.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 13, 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee (US Patent Number 7062774).

Regarding claim 1, Lee discloses:

An optical disc apparatus (abstract) in which when focusing servo operation is not being performed, an objective lens (figure 6, item 21) is fixed at such a position as to be brought out of contact with an optical disc (column 7, lines 36-58).

Regarding claims 2 & 3, Lee discloses the features of base claim 1, as state in the 102 rejection above, and further discloses:

An objective lens actuator (figure 6, items 41, 43, 45 and 47) for driving the objective lens (column 4, lines 30-45); and

A drive control circuit (figure 6, item 16) for controlling the objective lens actuator (column 4, lines 30-45);

An objective lens fixture for fixing the objective (figure 2, items 51 & 53);

Wherein the objective lens actuator drives the objective lens to the position on the basis of a control signal from the drive control circuit (column 6, lines 9-21) and the objective lens fixture fixes the objective lens at the position (columns 7 & 8, lines 36-67 & 1-4).

Regarding claims 13, 19 and 20, Lee discloses the features of base claim 1, as state in the 102 rejection above, and further discloses:

Wherein an inactive duration is generated in transfer of information between the optical disc and an optical head by performing recording or reproduction of the optical disc (column 7, lines 36-58) at a transfer rate higher than an ordinary transfer rate (column 7, lines 26-30 & 42-46) such that the objective lens is fixed during the inactive duration (column 7, lines 36-58).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, in view of Childers, III et al (US Patent Number 5444690).

Regarding claim 4, Lee discloses the features of base claim 3, as stated in the 102 rejection above, and further discloses:

Wherein the optical disc fixture includes an engageable portion (figure 2, item 53) formed on a support member (figure 2, item 27) for supporting the objective lens (column 4, lines 30-57) and a mating engageable portion (figure 2, item 51) for securing, through its engagement with the engageable portion, the support member to a base continuous with an optical stand (column 7, lines 36-58).

Lee fails to specifically disclose:

The mating engageable portion being provided on a locking member mounted pivotally on the base.

Childers discloses:

An optical disc apparatus (abstract) in which when focusing servo operation is not being performed (column 5, lines 3-18), an objective lens (figure 3, item 44) is fixed at such a position (column 5, lines 3-18);

An objective lens actuator for driving the objective lens (column 1, lines 34-46); and

A drive control circuit (figure 1, item 12) for controlling the objective lens actuator (column 4, lines 1-29);

An objective lens fixture for fixing the objective lens (figure 3, item 26);

Wherein the objective lens actuator drives the objective lens to the position on the basis of a control signal from the drive control circuit and the objective lens fixture fixes the objective lens at the position (column 5, lines 3-18).

Wherein the optical disc fixture includes an engageable portion (figure 3, item 50) formed on a support member (figure 3, item 35) for supporting the objective lens (figure 2) and a mating engageable portion (figure 3, item 48), the mating engageable portion being provided on a locking member mounted pivotally on the base (figures 3-5, 26 is pivotable on item 35).

Regarding claim 10, Lee and Childers disclose the features of base claim 4, as stated in the 102 rejection above, and Lee further discloses:

An elastic member (figure 2, item 30) for urging the mating engageable portion of the locking member in a direction for bringing the mating engageable portion out of engagement with the engageable portion (columns 6 & 7, lines 50-67 & 1-18).

9. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee.

Regarding claims 7 and 9, Lee discloses the features of base claim 3, as stated in the 103 rejection above, and further discloses:

Wherein an electric current is applied to the objective lens actuator such that fixing of the objective lens by the objective lens fixture is cancelled (column 7, lines 36-58).

Wherein a current flowing in a direction for moving the objective lens away from the optical disc is applied to the objective lens actuator such that fixing of the objective lens by the objective lens fixture is cancelled (column 7, lines 36-58).

Lee fails to specifically disclose:

Wherein the current is DC or AC.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide either a DC or an AC as the electric current flowing to force the actuator to the retracted position, because these two types of currents are well known and would expectedly perform to either bring the actuator to the loaded or unloaded positions, as indicated by Lee in column 7, lines 1-58.

10. Claims 11, 12, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, in view of Itonaga (US Patent Number 6636366).

Regarding claims 11, 17 and 18, Lee discloses the features of base claims 1-3, as stated in the 102 rejection above, but fails to specifically disclose:

Wherein a working distance of the objective lens is smaller than an amplitude of a planar deflection of the optical disc.

Itonaga discloses:

An optical disc apparatus (abstract);

Wherein a working distance of the objective lens is smaller than an amplitude of a planar deflection of the optical disc (columns 1 & 2, lines 51-56 & 48-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of Lee with a working distance smaller than the planar deflection of the disc, as taught by Itonaga, because lenses with large NA, i.e. Blue-ray systems, will inherently have a working distance smaller than the planar wobble of the well-known plastic discs.

Regarding claim 12, Lee and Itonaga disclose the features of base claim 11, as stated in the 103 rejection above, but Lee fails to specifically disclose:

Wherein a distance between an average position of one face of the optical disc adjacent to the objective lens and a position of a distal end of the objective lens is so set as to be not less than a half of the amplitude of the planar deflection of the optical disc.

Itonaga discloses:

Wherein a distance between an average position of one face of the optical disc (figure 14, item 3) adjacent to the objective lens and a position of a distal end of the objective lens is so set as to be not less than a half of the amplitude of the planar deflection of the optical disc (column 2, lines 48-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide for the working distance to be greater than half of the wobble of the DVD, as taught by Itonaga, because this would expectedly help to limit the possibilities of crashing between the lens and the disc. Furthermore in the course of routine engineering optimization/experimentation, it would have been obvious to use a lens with an NA large enough or small enough to provide the optimal output results.

Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in claim 11 are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see Gardner v. TEC Systems, Inc., 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

11. Claims 14, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee and Itonaga, as applied to claims 1, 11 and 12 above, and further in view of Imai (US Patent Number 7301872).

Regarding claims 14, 21 and 22, Lee discloses the features of base claims 1-3, as stated in the 103 rejection above, and Lee and Itonaga further disclose the features of claim 14 that are in common with those previously disclosed in claims 11 and 12, as stated in the 103 rejections above, but Lee and Itonaga fail to specifically disclose:

Wherein the objective lens has different first and second working distances relative to an optical disc including a cover layer and at least one further optical disc including a further cover layer having a thickness different from that of the cover layer of the optical disc, respectively;

Wherein the optical disc has a first travel distance between its uppermost position and its lowermost position, while the further optical disc has a second travel distance between its uppermost position and its lowermost position, with the second travel distance being different from the first travel distance;

Wherein a smaller one of the first and second working distances is set smaller than a larger one of the first and second travel distances.

Imai discloses:

An optical disc apparatus (abstract);

Wherein the objective lens has different first and second working distances relative to an optical disc (figure 5, distances ‘A’ and ‘B’) including a cover layer and at

least one further optical disc including a further cover layer having a thickness different from that of the cover layer of the optical disc (figure 5, items 22a & 22b), respectively;

Wherein the optical disc has a first travel distance between its uppermost position and its lowermost position (figure 5, item 22b, beam focuses at a smaller distance midway through he disc), while the further optical disc (figure 5, item 22a) has a second travel distance between its uppermost position and its lowermost position, with the second travel distance being different from the first travel distance (figure 5, item 22a has a larger travel distance than item 22b, beam focuses at a further distance);

Wherein a smaller one of the first and second working distances is set smaller than a larger one of the first and second travel distances (figure 5, DW 'B' is smaller than DW 'A').

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of Lee to have two discs each with two different working and travel distances, as taught by Imai, because the focusing distance, or the operation point for tow different discs is different. CDs and DVDs vary in operation points and focusing, therefore it would be desirable for a system to operate with both, as discussed by Imai in columns 7, 8 & 9.

12. Claims 15, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee, Itonaga and Imai, as applied to claim 14 above, and further in view of Heor et al (US PG-Pub 2004/0165520).

Regarding claims 15, 23 and 24, Lee discloses the features of base claims 1-3, as stated in the 102 rejection above, and Lee, Itonaga and Imai further disclose the features of claim 15 that are in common with those previously disclosed in claim 14, as stated in the 103 rejection above, but Lee, Itonaga and Imai fail to specifically disclose:

At least one further objective lens having a further working distance different from a working distance of the objective lens;

Wherein the objective lens and the further objective lens are usable for an optical disc including a cover layer and a further optical disc including a further cover layer having a thickness different from that of the cover layer of the optical disc, respectively.

Heor discloses:

An optical disc apparatus (abstract);

An objective lens (figure 6, item 45);

At least one further objective lens (figure 6, item 41) having a further working distance different from a working distance of the objective lens (figure 6, items WD1 & WD2);

Wherein the objective lens and the further objective lens are usable for an optical disc (figure 6, item 1; abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the system of Lee with a first and second objective lens for both a DVD and CD, as taught by Heor, because CDs and DVDs are well known to use different working distances and different lens with different NAs, as stated in paragraphs 9 & 10.

Allowable Subject Matter

13. Claims 5, 6, 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

Claim 5 recites:

Wherein the aberration correcting mechanism actuates the objective lens fixture.

Claim 8 recites:

Wherein the AC signal component contains a resonant frequency of the objective lens actuator.

This limitation, in combination with the limitations of the other claims, is neither anticipated, nor rendered obvious by any prior art of record.

The closest reference, Yamamoto et al (US Patent Number 5258971), discloses an aberration correcting mechanism which moves similarly along the radius of the disc, however, this does not actuate a latch to retract the objective lens away from the disc. Another reference, Lee, discloses a latch to retract the objective lens away from the disc, but the latch is not actuated by an aberration correcting mechanism. Furthermore, the AC component of the signal is not specifically disclosed in the present application.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW G. KAYRISH whose telephone number is (571)272-4220. The examiner can normally be reached on 8am - 5pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew G. Kayrish /Matthew G. Kayrish/ 4/18/2008

/M. G. K./

Examiner, Art Unit 2627

/Brian E. Miller/

Primary Examiner, Art Unit 2627